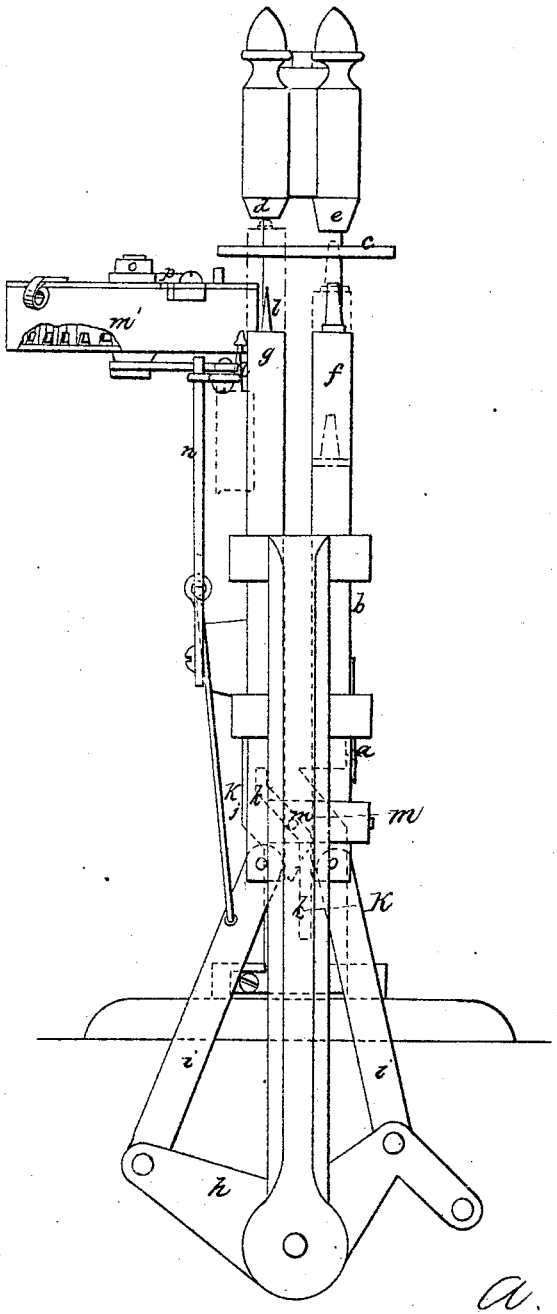
Sheet 1.
2 Sheets.

A. A. Reed.

Eyeleting Machine.

No. 53926 Patented Apr. 10, 1866.

Fig. 1.



Witnesses.

H. Gould
W. B. Gleason

Inventor.

A. A. Reed, by his Atty
W. B. Lowell

Sheet 2.
2 Sheets.

A. A. Reed.

Eyeleting Machine.

No. 53926 Patented Apr. 10, 1866.

Fig. 2.

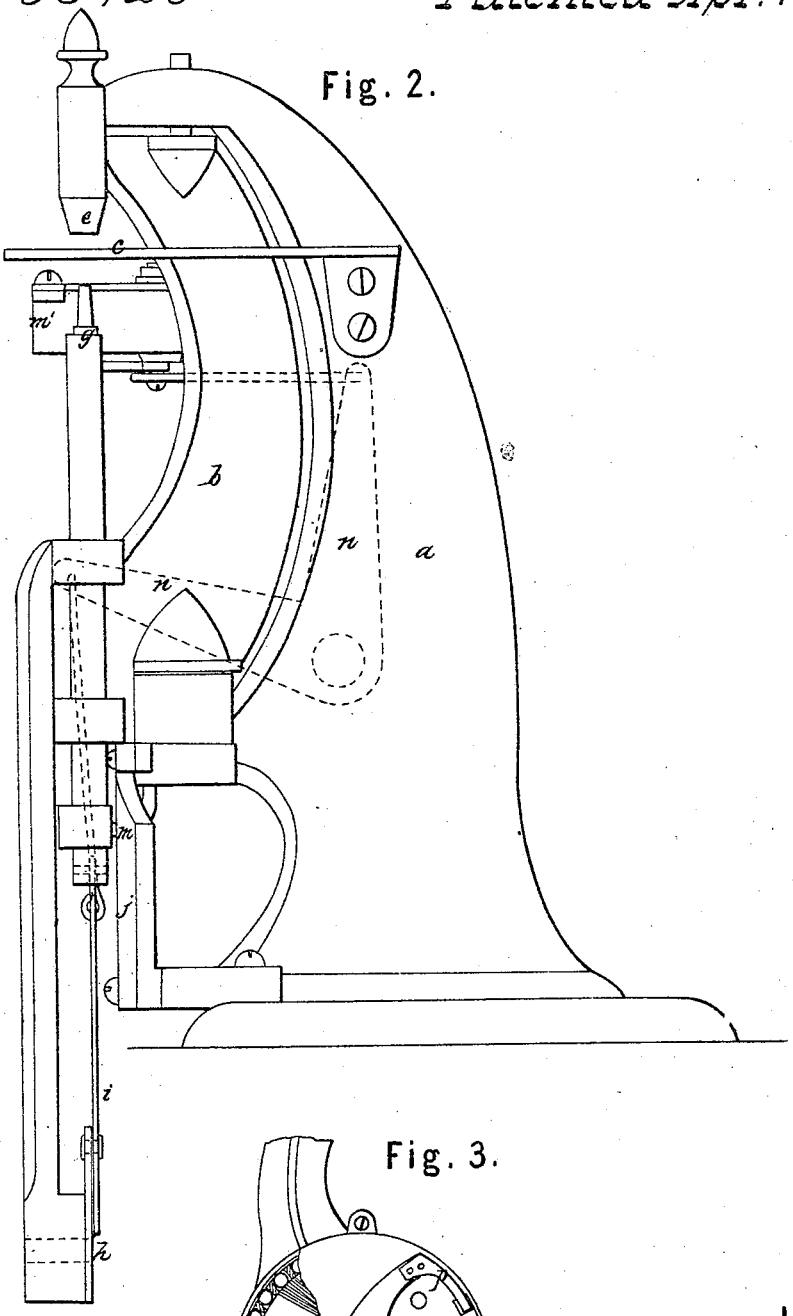


Fig. 3.

Witnesses.

F. Gould
W. B. Gleason

Inventor.

A. A. Reed, by
his Atty
W. B. Lowell

UNITED STATES PATENT OFFICE.

ANDREW A. REED, OF NORTH BRIDGEWATER, ASSIGNOR TO ELMER TOWNSEND, OF BOSTON, MASSACHUSETTS.

IMPROVEMENT IN EYELETING-MACHINES.

Specification forming part of Letters Patent No. **53,926**, dated April 10, 1866.

To all whom it may concern:

Be it known that I, ANDREW A. REED, of North Bridgewater, in the county of Plymouth and State of Massachusetts, have invented an Improved Eyeleting-Machine; and I do hereby declare that the following, taken in connection with the drawings which accompany and form part of this specification, is a description of my invention sufficient to enable those skilled in the art to practise it.

The invention relates to the method of combining the operations of the punching and eyelet-setting mechanism with the eyelet-magazine, so that the operation of punching the work and of feeding and setting the eyelet are effected in a more direct and simple manner than in machines heretofore made. It is in the combination of the punch, the feeding instrument, and the setting mechanism that the invention consists; also, in the construction and arrangement of mechanism by which the eyelet is taken directly from the hopper by the feeding and setting tool instead of being led through an interposed chute; also, in the construction of the eyelet-magazine.

The drawings represent a machine embodying the invention, Figure 1 denoting a front elevation, and Fig. 2 a side elevation, thereof. Fig. 3 shows a top view of the eyelet-magazine.

A post or standard, *a*, carries a vertical rocking frame, *b*, turning horizontally upon suitable journal-pins, and supporting the setting and punching tools.

A stationary table or plate, *c*, supports the work to be punched and eyeleted, and just above this table are placed the setting-anvil *d* and the punch-bed *e*, they being stationary with respect to the frame *b*. Below the table are the punch *f* and movable set *g*, each of which slides vertically in bearings in the frame *b*, vertical movement being imparted to them to carry them up to and away from their respective beds *e d*, by a rocking lever, *h*, to which they are connected by links *i*, or in any other suitable manner.

In order to effect the punching of the work and the setting of the eyelet in the punched hole without intermediate movement of the work, and to simultaneously effect the transfer of the eyelet from the eylet-magazine to the feeding or setting pin, and out into vertical line with the punched hole, lateral movements are given to the punch and set in connection with their vertical movements, this being effected as follows: A stationary cam-plate, *i*, is placed at the front of the standard *a*, and this plate has a slot, *k*, cut into it, the lower and upper parts of the slot being vertical and connected by an incline. A pin, *m*, projects from the lower part of the punch-shaft *b* into this slot. When the punch *f* is thrown up by the lever *h* the incline in the plate *i* causes the punch to turn or move laterally until it is brought under the hole made through the table *c* for its passage, the continued upward movement of the punch being vertical to punch the work. This movement carries the movable setting-tool *g* downward and laterally, bringing its eyelet-pin *l* directly under the eyelet presented at the opening or gateway of the eyelet box or magazine *m*. Movement of the lever *h* in the opposite direction carries the pin *l*, first vertically up to and through the presented eyelet, and next with the impaled eyelet laterally and vertically out into line with the punched hole, and then, and finally, up through the hole, placing the eyelet therein and clinching it against the anvil or bed *d*, the punch being simultaneously moved downward and laterally, as will be readily understood. The work being then fed, this operation is repeated until the eyeleting is finished. It will be obvious that the eyelets may be removed by the pin *l* from a chute or conductor leading from the eyelet-box, but generally I prefer to feed them directly from the box, as described.

The eyelet-box or magazine *m* is fixed to the standard *a*. It has a shaft running vertically through its center, said shaft and brushes extended radially from it, having a rocking movement imparted to them by a rocker-lever, *n*, one arm of which is connected to one of the links, *i*, and its other arm to a crank upon the shaft. The box *m* has a ring or cylinder, *o*, fitting into and intermittently rotating within it, the rotation being effected through the engagement of a pawl, *p*, on the shaft extending through the box, with ratchet-teeth upon the upper edge of the ring, or in any other convenient manner. The lower edge of the ring is formed with eyelet-pockets, into which the eyelets are pushed by the brushes, the passages being of such form as only to admit

the eyelets when they set uprightly upon the bottom of the box. An opening or gateway is made at the side of the box adjacent to the pin *l*, this opening admitting of the passage of an eyelet from the pocket in the ring *o* out of the box by the movement of the pin *l*. At each movement of the ring one of these pockets, with an eyelet therein, is brought in line with the gateway, and the eyelet is removed from the box by the pin *l*, as before described. As, after the removal of the eyelet from each pocket, said pocket has to travel entirely around the inner circumference of the box and is subject to the action of the brushes upon the eyelets during all this movement, it is sure to get filled before it again comes opposite the gateway, thus obviating the necessity of a roadway, in which the eyelet, after removal from the box, shall slide by gravity to the action of the setting-mechinism.

Heretofore it has generally been considered necessary to have a hopper or magazine which, in whole or in part, shall vibrate as well as rotate, and shall have an inclination to keep the body of eyelets near the openings, as well as an inclined chute leading to the setting-mechanism. But by my construction not only is the chute dispensed with, but the box is placed horizontally and has no vibrating or shaking movement, an eyelet being always presented to the action of the feed-pin, and being removed directly from the box or magazine by the spring feed-pin which forms part of the setting-tool.

I claim—

1. The combination of the stationary work-supporting surface, the punch, and the setting mechanism, when the latter is arranged to feed the eyelet laterally to or under the hole punched for its insertion, substantially as described.

2. The construction by which the eyelet is removed by the feed-pin directly from the magazine without the intervention of a chute or roadway, substantially as described.

3. The combination of a stationary eyelet-magazine with a rotating ring, provided with pockets into which the eyelets are thrust, substantially as described, and from which they are removed by the feeding instrument, substantially as set forth.

In witness whereof I have hereunto set my hand this 7th day of September, A. D. 1865.

ANDREW A. REED.

Witnesses:

J. R. PERKINS,

MARY E. PERKINS.